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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,276	01/17/2007	Stephen Bernard Streater	BKYZ 200111US01	1949
27885	7590	01/18/2012		
FAY SHARPE LLP 1228 Euclid Avenue, 5th Floor The Halle Building Cleveland, OH 44115			EXAMINER KIM, HEE-YONG	
			ART UNIT 2482	PAPER NUMBER
			MAIL DATE 01/18/2012	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary**Application No.**

10/578,276

Applicant(s)

STREATER, STEPHEN BERNARD

Examiner

HEE-YONG KIM

Art Unit

2482

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1-3 and 6 is/are pending in the application.
- 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1-3 and 6 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI-100)
Paper No(s)/Mail Date ____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

Response to Amendment

1. This office action is in reply to Applicant's Response dated July 13, 2011.
2. **Claim 4-5 and 7-8** have been cancelled.
3. **Claims 1 and 6** have been amended.
4. **Claims 1-3, and 6** are pending.

Response to Arguments

5. Applicant's arguments with respect to the prior art rejection over **claims 1-3, and 6** have been considered but they are not persuasive.
6. Regarding **claim 1**, Applicant states (pp.4-6) claim interpretation by bringing limitation in the specification into claim 1. However, the examiner is allowed to have a broadest reasonable claim interpretation. As long as prior art teaches the claim (not specification), the claim is rejected. Applicant argues (pp.4-6) that there is a difference between prior art and his application because the dictionary of code words are not shared between the encoder and decoder in the application. However, there is no claim language representing this feature. Applicant further argues (pp.5) that the codeword space in the prior art (Streater) is not reserved but rather pre-allocated. Examiner respectfully disagrees. As shown in this office action, the codeword space is reserved for a codeword which have not occurred before.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. **Claim 1** is rejected under 35 U.S.C. 102(b) as being anticipated by Streater (US 2003/0,156,651) (hereafter reference as Streater).

Regarding **claim 1**, Streater discloses Method for Reducing Code Artifacts in a Block Coded Video Signals. Specifically Streater discloses A method of compressing digital data comprising the steps of:

- (i) reading digital data (video image frame, paragraph 10) as series of binary coded words (series of binary coded words, paragraph 10) representing a context (pixels, paragraph 11) and a codeword (codewords, paragraph 11) to be compressed;
- (ii) calculating distribution output data (distribution of codewords, paragraph 76) for the input data and generating variable length prefix codewords for each combination of context and input codeword so as to form a respective transition table (Huffman table, paragraph 94) for local codewords for each context in a manner which reserves logical codeword space at the long end to represent any new input codewords (exception codeword followed by uncompressed codeword, paragraph 94), which have not yet occur with that context, as they occur for the first time (inherent in Streater because Streater discloses that rare codewords are assigned to escape prefix and during

calculation of distribution output data in order to get the Huffman table, some of codes which belong to the escape code prefix have not yet occurred with that context but their codes spaces are reserved by forming escape code followed by uncompressed codeword (par.94)); and

(iii) recalculating the codewords from time to time (own Huffman codeword at a new frame, paragraph 126), in order to continuously update the codewords and their lengths.

9. **Claims 2-3** are rejected under 35 U.S.C. 103(a) as being unpatentable over Streater in view of Wang (US 2003/0,169,816) (hereafter referenced as Wang).

Regarding **claim 2**, Streater discloses everything claimed as applied above (see claim 2). However Streater fails to disclose in which the codewords are recalculated each time the number of codewords has doubled.

In the analogous field of endeavor, Wang discloses Adaptive Universal Variable Length Codeword Coding for Digital Video Contents. Wang specifically discloses that VLC table can be updated (*codewords are recalculated*) once there is a significant change in the probability distribution of an event (paragraph 45). It was obvious to consider doubling number of codewords as the indication of significant change in the probability distribution of codewords, because doubling number of codewords tells that VLC codes does not fit anymore to current status of video.

Therefore, given this teaching, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Streater by specifically providing updating VLC table when the number of codewords has doubled, in order to best serve

a particular (video) application. The Streater digital video compression, incorporating the Wang updating VLC table when the number of codewords has doubled, has all the features of claim 2.

Regarding **claim 3**, Streater discloses everything claimed as applied above (see claim 1). However Streater fails to disclose in which the codewords are recalculated for every new frame of data.

Wang specifically discloses in which the codewords are recalculated for every new frame of data (Updated UVLC table can be frame-by-frame, paragraph 45), in order to best serve a particular (video) application (paragraph 45).

Therefore, given this teaching, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Streater by specifically providing updating VLC table for each frame by recalculating codewords, in order to best serve a particular (video) application. The Streater digital video compression, incorporating the Wang updating VLC table for each frame, has all the features of claim 3.

10. **Claim 6** is rejected under 35 U.S.C. 103(a) as being unpatentable over Streater, in view of Streater (US 6,195,128) (hereafter referenced as Streater-B).

Regarding **claim 6**, Streater discloses everything claimed as applied above (see claim 1). However Streater fails to in which the method further comprises an adaptive learning process for deriving a relationship between contextual information and codewords requiring compression, and a process for dynamically.

In the same field of endeavor, Streater-B discloses Video Processing for Storage or Transmission. Streater-B discloses specifically in which the method further comprises an adaptive learning process (Learning, col.17, line 40-67; col.18 all lines; col.19, line 1-17) for deriving a relationship between contextual information and codewords requiring compression, and a process for dynamically, in order to have a high resolution representation of video compression.

Therefore, given this teaching, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Streater by specifically providing adaptive learning process for deriving a relationship between contextual information and codewords requiring compression, and a process for dynamically, in order to have a high resolution representation of video compression.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HEE-YONG KIM whose telephone number is (571)270-3669. The examiner can normally be reached on Monday-Thursday, 8:00am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Kelley can be reached on 571-272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Examiner, Art Unit 2482

/CHRISTOPHER S KELLEY/
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